

## RIVERS AND FLOODS

By R. E. SPENCER

Losses in the Colorado, Guadalupe, and Nueces River floods, which had not been determined in time for inclusion with the discussion of the central and east Texas floods of late May in the REVIEW for that month, are reported as follows:

River	Reported loss	Savings through flood warnings
Colorado.....	\$445,700	\$143,000
Guadalupe.....	450,000	150,000
Nueces.....	( <sup>1</sup> )	

<sup>1</sup> None of importance.

Losses for March, April, and May in the Cairo, Ill., district, in addition to those already published for the flood of the lower Tennessee River in March, and which had been undetermined at the time of issue of the May REVIEW, are estimated at \$1,110,950, distributed as follows:

Tangible property.....	\$143,050
Matured crops.....	10,900
Prospective crops.....	802,000
Livestock and other movable property.....	34,100
Suspension of business.....	120,900

Total..... 1,110,950  
Value of property saved through flood warnings,  
\$161,000.

During June, floods of some importance occurred in the lower Missouri River and in the Grand River of Missouri, the latter having been exceptionally high. In the Missouri flood the losses amounted to \$265,000, \$212,000 of which was in prospective crops, and practically all occurred above Waverly, Mo. In the same area a saving of \$40,000 was accomplished through the flood warnings. At and below Waverly and along the Grand River, crops had been ruined by the earlier rises of this spring, and the main damage this month consisted in the prevention of planting by the wet ground. Some railroad losses occurred in the Grand Basin.

The Illinois River flood, a rapid but not particularly high rise following excessive rains on the 14th-15th, was without important consequence beyond the usual inconvenience and a further delay in crop planting.

A crop loss of \$15,000 occurred in the Solomon River Basin; and considerable inconvenience was experienced in other localities in Kansas from overflows from small streams—Big Stranger Creek particularly. In general these latter floods were the consequences of heavy local rains and were of short duration. A saving of \$5,000 worth of property was accomplished in Kansas through Weather Bureau flood warnings.

Excepting that in the lower Mississippi, other floods in June were unimportant. Report on the lower Mississippi flood will appear in the July issue of this REVIEW.

[All dates in June unless otherwise specified]

River and station	Flood stage	Above flood stages—dates		Crest	
		From—	To—	Stage	Date
ATLANTIC DRAINAGE					
Neuse:	<i>Feet</i>			<i>Feet</i>	
Neuse, N. C.....	15	29	( <sup>1</sup> )	16.2	30.
Smithfield, N. C.....	14	30	( <sup>1</sup> )	17.0	July 2.
Santee:		( <sup>2</sup> )	1	17.7	May 6.
Rimini, S. C.....	12	16	22	12.7	19.
		23	( <sup>1</sup> )	13.9	29.
Ferguson, S. C.....	12	( <sup>1</sup> )	9	17.5	Mar. 10.
		14	15	12.0	14-15.
Jamestown, S. C.....	12	18	( <sup>1</sup> )	12.7	30.
		( <sup>2</sup> )	13	17.4	May 11-13.
MISSISSIPPI DRAINAGE					
Ohio:					
Dam No. 50, Fords Ferry, Ky....	35	( <sup>2</sup> )	1	41.0	May 17-19.
Cairo, Ill.....	45	( <sup>2</sup> )	1	52.7	May 19.
Wabash: Covington, Ind.....	16	13	14	17.0	14.
Mississippi:					
Alton, Ill.....	21	5	11	23.0	9.
St. Louis, Mo.....	30	7	10	30.8	9.
Chester, Ill.....	27	6	12	29.0	10.
Cape Girardeau, Mo.....	30	6	15	33.0	10-11.
New Madrid, Mo.....	34	( <sup>2</sup> )	4	41.3	May 19, 20,
					23, 24.
Memphis, Tenn.....	35	( <sup>2</sup> )	7	41.7	May 26.
Helena, Ark.....	44	( <sup>2</sup> )	12	52.6	May 28-30.
Arkansas City, Ark.....	48	( <sup>2</sup> )	21	58.8	May 29-31.
Greenville, Miss.....	42	( <sup>2</sup> )	21	53.2	May 29-
					June 2.
Vicksburg, Miss.....	45	( <sup>2</sup> )	29	55.2	6-7.
Natchez, Miss.....	46	( <sup>2</sup> )	30	54.5	5-11.
Angola, La.....	45	( <sup>2</sup> )	( <sup>1</sup> )	52.4	8-13.
Baton Rouge, La.....	35	( <sup>2</sup> )	( <sup>1</sup> )	43.5	10-13.
Donaldsonville, La.....	28	( <sup>2</sup> )	( <sup>1</sup> )	34.0	10.
Reserve, La.....	22	( <sup>2</sup> )	( <sup>1</sup> )	25.9	11.
New Orleans, La.....	17	( <sup>2</sup> )	( <sup>1</sup> )	20.0	9.
Illinois:					
Peru, Ill.....	14	12	29	17.7	15.
Henry, Ill.....	10	15	24	11.6	18.
Peoria, Ill.....	18	18	21	18.2	19.
Havana, Ill.....	14	( <sup>2</sup> )	8	19.6	Apr. 6.
		14	29	15.3	21.
Beardstown, Ill.....	14	( <sup>2</sup> )	( <sup>1</sup> )	21.2	Apr. 6.
Pearl, Ill.....	12	( <sup>2</sup> )	27	21.3	Apr. 29-30.
St. Francis:					
St. Francis, Ark.....	18	19	22	19.1	21.
Marked Tree, Ark.....	17	( <sup>2</sup> )	2	17.5	May 28-29.
Missouri:					
Kansas City, Mo.....	22	3	6	23.4	5.
		23	24	22.3	23.
Waverly, Mo.....	23	3	11	25.0	6.
		23	25	24.2	24.
Boonville, Mo.....	21	4	10	23.7	7.
Hermann, Mo.....	21	4	11	24.8	8.
		26	26	21.0	26.
St. Charles, Mo.....	25	4	14	31.4	9.
		25	28	26.5	26-27.
Smoky Hill: Mentor, Kans.....	22	4	4	22.1	4.
Solomon: Beloit, Kans.....	18	8	9	26.5	9.
Grand:					
Gallatin, Mo.....	20	1	5	37.7	2.
Chillicothe, Mo.....	18	1	7	32.1	3.
		3	11	19.4	6.
Brunswick, Mo.....	12	24	26	13.1	25.
Grand, Thompsons Fork: Trenton, Mo.....	20	2	3	21.4	2.
Arkansas: Yancopin, Ark.....	29	( <sup>2</sup> )	( <sup>1</sup> )	44.8	May 28-30.
Little Arkansas: Sedgwick, Kans.....	18	4	4	18.5	4.
White:					
Georgetown, Ark.....	22	( <sup>2</sup> )	12	26.3	May 17-18.
Clarendon, Ark.....	30	( <sup>2</sup> )	2	31.3	May 24-25.
Black:					
Poplar Bluff, Mo.....	14	15	16	14.4	15.
Corning, Ark.....	11	17	25	12.5	21.
Black Rock, Ark.....	14	( <sup>2</sup> )	1	22.3	May 20.
Yazoo: Yazoo City, Miss.....	25	( <sup>2</sup> )	25	29.7	May 1.
Atchafalaya:					
Simmesport, La.....	41	( <sup>2</sup> )	( <sup>1</sup> )	46.4	12-16.
Melville, La.....	37	( <sup>2</sup> )	( <sup>1</sup> )	42.2	9-16.
WEST GULF DRAINAGE					
Sabine:					
Logansport, La.....	25	10	12	25.2	10-11.
Bon Wier, Tex.....	20	2	3	20.2	3.
Orange, Tex.....	4	2	5	4.3	4.

<sup>1</sup> Continued at end of month.<sup>2</sup> Continued from last month.

River and station	Flood stage	Above flood stages—dates		Crest	
		From—	To—	Stage	Date
Neches:					
Rockland, Tex.....	22	(3)	6	26.8	1.
Beaumont, Tex.....	7	(2)	13	13.4	2.
Trinity:					
Dallas, Tex.....	25	(3)	7	34.5	May 17.
Trinidad, Tex.....	28	(2)	11	39.6	May 22.
Long Lake, Tex.....	40	(2)	12	45.2	3.
Riverside, Tex.....	40	(2)	4	46.2	1.
Liberty, Tex.....	25	(2)	22	28.3	2.
Brazos:					
Washington, Tex.....	45	(3)	5	51.0	1.
Hempstead, Tex.....	40	May 31	5	43.8	2.
Rosenberg, Tex.....	40	2	8	46.2	6.
Freeport, Tex.....	4	5	12	7.4	10.
Colorado: Columbus, Tex.....	28	(2)	3	38.0	1.
Guadalupe:					
Gonzales, Tex.....	22	(2)	2	34.0	May 29.
Victoria, Tex.....	16	(2)	6	26.2	2.
Nueces: Three Rivers, Tex.....	37	(2)	4	42.0	May 31.
Rio Grande: San Marcial, N. Mex.....	3	(2)	4	4.2	May 23-25.
PACIFIC DRAINAGE					
Colorado:					
Fruita, Colo.....	12	3	12	13.2	4.
Parker, Ariz.....	7	(2)	(1)	11.9	2.
Colorado, Roaring Fork: Carbon-					
dale, Colo.....	5	2	12	6.1	9.
		14	15	5.4	15.
		20	24	5.2	21-22.
Eagle: Eagle, Colo.....	5	2	11	6.1	19.
Gunnison: Delta, Colo.....	9	(2)	18	11.7	May 26.
		22	23	9.0	22-23.
Columbia:					
Marcus, Wash.....	21	6	27	27.8	17.
Vancouver, Wash.....	15	12	26	17.7	20.

<sup>1</sup> Continued at end of month.<sup>2</sup> Continued from last month.

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## THE EFFECT OF WEATHER ON CROPS AND FARMING OPERATIONS, JUNE, 1929

By W. A. MATTICE

*General summary.*—During the first decade continued cool weather retarded the growth of warm-weather crops east of the Mississippi River, but there was a favorable warming up toward the close of the period. The weather was mostly favorable in the South, while in the west Gulf area farm work and crops advanced satisfactorily under beneficial conditions. In some interior sections the soil continued too wet to work, but in the northern Great Plains the weather favored agricultural interests; rain was needed in an extensive area of the North from north-eastern Iowa and Wisconsin eastward. In the far Northwest local showers or generous rains were helpful, especially for the grain crops, but there was considerable damage to cherries and mown hay in northern California, while moisture was needed badly in the Great Basin and much of New Mexico.

During the second decade further rains in some persistently wet sections were detrimental, but the weather in general was largely favorable for agricultural interests. Showers were helpful in the Lake region, while in the South temperature conditions were beneficial and ideal weather for ripening grains and for harvest prevailed in the Southwest. In the central and northern Great Plains growth was rapid, but it continued dry in the far Southwest, while rains were helpful in the Great Basin and the far Northwest.

During the last decade droughty conditions were relieved in the Northeast but night temperatures were rather too cool for best growth of warm-weather vegetation from the Ohio Valley northward, otherwise warmth was sufficient and crops made satisfactory advance. Timely and beneficial rains occurred in the upper Mississippi Valley, but drought prevailed and rainfall was badly needed in a rather extensive area of the Northwest, including the principal spring-wheat sections, where grains

were heading short; rain was also needed in the far Southwest.

*Small grains.*—During the first decade winter wheat showed improvement in the Ohio Valley, with the general condition good to excellent; the crop was heading in many parts and some ripening was reported. In the trans-Mississippi States wheat did well and in the Great Plains satisfactory advance was made; progress and condition were mostly fair to good, except that poor condition was indicated over large areas of Oklahoma and there was some rust and lodging in Kansas. Favorable conditions prevailed elsewhere. During the second decade winter wheat heading became general in the Ohio Valley and harvest had begun in the lower valley districts. Very good to excellent conditions prevailed in the Great Plains, with the crop heading in South Dakota; ideal harvest weather prevailed in most of the Southwest, with rapid advance in this work. During the last decade conditions were mostly favorable for harvesting wheat in the Ohio Valley, with this work general to the central portions; the crop was turning in Iowa, while harvest was rather general in the south-central Great Plains and in the Southwest under mostly favorable conditions.

Spring wheat made good advance generally during the first two decades, except for some local dryness, but toward the close of the month, droughty conditions prevailed in much of the northern belt, with deterioration noted in many parts, especially in Montana where the crop was backward and burning locally. Oats did well generally, except in the Ohio Valley and some central sections, where they were heading on short straw. Other small grains mostly did well except toward the close of the month rain was needed in the northern Great Plains.

*Corn.*—During the first decade conditions were fairly favorable for field work in the Corn Belt, except that in some persistently wet sections soggy fields prevented active operations with considerable corn not yet planted. Elsewhere planting was largely completed, but in the eastern part of the belt cool weather was unfavorable for germination. In Iowa progress and condition were generally fair, but the crop was very irregular, while conditions were mostly favorable in the Plains States. During the second decade further rains were detrimental in preventing completion of planting in the central belt, but in the upper Ohio Valley rains and warm weather were beneficial and in the western half of the belt conditions were largely favorable. Progress and condition were still mostly fair in Iowa, while in the Plains the period was again favorable. During the last decade the crop continued generally late and very uneven, especially in Iowa, where it ranged from shoulder high to a few inches tall. It was rather cool for best growth, but advance was generally favored, while in Iowa rains were beneficial and progress was very good to excellent; growth was satisfactory elsewhere.

*Cotton.*—During the first decade there was some interruption to field work in the Atlantic States and general coolness east of the Mississippi River retarded growth, but the general progress of cotton was fair to fairly good, with squares and blooms increasing rapidly in southern parts and local bloom to South Carolina. The weather was mostly favorable in Arkansas and Louisiana, while moderate warmth and much sunshine permitted resumption of cultivation and chopping in Texas, where growth was good, but in Oklahoma it continued too wet in the central and eastern portions, where progress was poor to only fair, but good advance was noted elsewhere. During the second decade good growth was possible in